'UP NORTH'

The Discovery and Mapping of The Canadian Arctic

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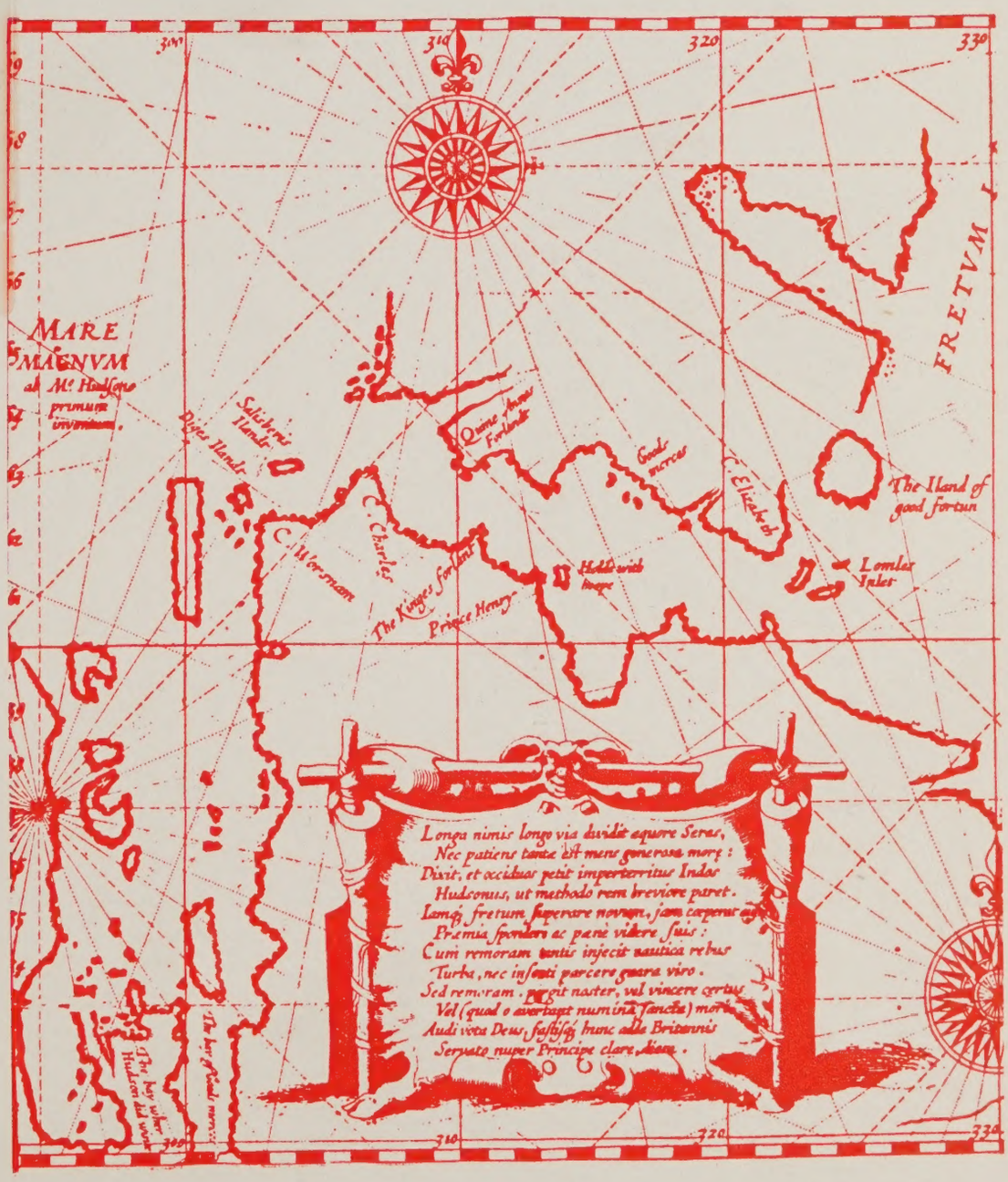

Addenda et Corrigenda.

The following uncatalogued maps are shown in the Exhibition:

1925 British Admiralty Chart. Melville Sound.
1927 British Admiralty Chart. King William Island.
1952 Canada: Department of Mines and Technical Surveys. Northwest Territories: Settlements and Trading Posts.
1953 Canada: Department of Mines and Technical Surveys. Northwest Territories: Transportation and communications.
1955 British Admiralty Chart. Baffin Bay.
1956 Canada: Department of Mines and Technical Surveys. Index to World Aeronautical Charts: 15.78 miles to 1 inch.
1956 Canada: Department of Mines and Technical Surveys. Index to World Aeronautical Charts: 8 miles to 1 inch.

The following catalogued maps have been omitted from the Exhibition:

1689 Coronelli-Nolin (augmented by Tillemon). Parti Orientale . . .
1721 Chatelain. Les et tres utiles . . .
1753 Bellin. Carte Reduite . . .
1755 Bellin. Parti Orientale . . .
1772 Jeffreys-Vaugondy.
1853 Anon. Arctic Regions . . .

The following maps and documents, bound in books, will be found - out of chronological context - in the case standing against the south wall of the northern bay of the Special Exhibition gallery.

1513 Macrobius.
1543 Solinus.
1612 Gerritsz (this map is reproduced in part on the cover of the Catalogue).
---- The Last Records of the Franklin Expedition (facsimile).

Corrigenda.

1513 Read "Waldseemüller" twice.
1543 Read "Basel".
1556 Read "Terra Nuova" and "arena".
1589 Read "Bedford".
1596 Read "Pisarro".
1606 Read "Lumley's".
1612 After "Delineatio" insert "Geographica".
1635 Read "Regiones".
1700 Read "famous".

'UP NORTH'

The Discovery and Mapping of
The Canadian Arctic

1511-1944

An Exhibition held at
The Royal Ontario Museum
April, 1958

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FOREWORD

With this Catalogue, and the Exhibition it accompanies, we come to the third and last in a series of exhibitions of maps illustrating the exploration of the New World with special reference to Canada. In "Sweet Water" the results of early voyages to North America were illustrated, and the subsequent journeys by land and water into the heart of the new continent, the basin of the Great Lakes - that Mare Dulce whose existence was first reported to Jacques Cartier in 1536. "Over the Rockies" carried the story of exploration across the prairies to the coast of the Pacific, and documented the accomplishments of Mackenzie, Fraser, Cook, Vancouver and many others by which Canada won its triumphant motto "A Mari Usque Ad Mare". Canada's Northland, the last frontier to be conquered, is the theme of the present exhibition. Its exploration and mapping provide a thrilling story of adventure and courage, of triumph and tragedy, of imagination and technological progress which is hard to equal. As before, this story is told through the medium of maps, for these provide contemporary documentation of the new discoveries and their significance.

Dr. Alexander E. MacDonald, whose generosity has made the preceding exhibitions possible, has once more placed his unique collection of maps at our disposal. His enthusiasm for Canadian history and for its documentation in maps is most contagious. Much of this is conveyed to the reader in the text of this catalogue, and the description of the individual maps, for both of which Dr. MacDonald is in large part responsible. The Museum is most happy to acknowledge its indebtedness to him for all his help.

The Royal Canadian Mounted Police and the Royal Canadian Navy have generously provided charts and other data connected with the memorable cruises of the "St. Roch" and the "Labrador".

The colour plate has been made possible through the generosity of Maclean's Magazine, and we are indebted to the Canadian Banker for the cover reproduction.

In this International Geophysical Year, when the attention of scholars the world over is concentrated on acquiring more facts about the earth on which we live, the Arctic regions and the information which they can provide are once more under close scrutiny. The present exhibition should help to give the historical framework of ex-

ploration which will set the new discoveries in their proper perspective.

A. D. Tushingham, Head,
Division of Art and Archaeology,
The Royal Ontario Museum.

"UP NORTH"

The Discovery and Mapping of the Canadian Arctic

Purpose

The Arctic is once more a focal point of active interest. The search for natural resources, the problems of continental defense and the scientific investigations which have increased greatly during the current International Geophysical Year - all have turned the eyes of Canadians to their own northland. It is the purpose of this exhibition to show the historical background of the Canadian North by means of a display of some eighty original maps of the period 1511 - 1944. These maps, together with the copy of the "Borgia" map, not only illustrate the history of exploration and the development of cartography, but incidentally show the progress made in the art of printing and making of paper. Today some of these charts seem strange, but it must be remembered that at the time they appeared they portrayed the latest and most accurate information available to their authors.

The mystery of the Arctic has attracted man's interest and endeavours over the centuries. The early ventures into the North were truly ventures into the unknown, and, although these early explorers did not penetrate far, the journeys they undertook nevertheless laid the foundation for the development now taking place. Their equipment was meagre, but their very persistence has borne remarkable results, some of which are briefly indicated below. Those who survived to give first-hand accounts of what they found and saw could never explain for us the fascination which impelled them to return again and again.

The Arctic

Knowledge of the north, resulting from travels by Phoenicians, Greeks and Romans, extended only to Thule - which may, with some probability, be identified with the Shetland Islands. Beyond this was

a blank. During the Middle Ages the northern regions continued to be shrouded in phantasy - a world apart, inhabited by pygmies and nameless terrors. To the west lay the Islands of the Blessed and those other legendary islands presumed to exist or guessed at by the classical poets, philosophers and geographers. The Scandinavian sagas, recounting early Norse exploration and colonization in the New World, were not available to the learned world until after Columbus. The stimulus to exploration in the Arctic - north of both Eurasia and America - was the desire to find, and the profit to be gained from the discovery of, a new and more direct passage to the wealth and exotic products of the Far East. The new nations of Western Europe wanted these luxuries, but they wished to bypass the many middlemen who transported the goods by the old routes through the Middle East to the Mediterranean, and to make a profit on their own account.

Canadian Arctic

Norse explorers, such as Eric the Red, had discovered and explored the shores of Greenland as early as the end of the tenth century and had even founded settlements. Their accomplishments, however, were not followed up for centuries and were forgotten; as a result, their discoveries had to be made all over again. For the four centuries covered by this exhibition the maps show how the Canadian North was gradually explored - from east and west by ship and sledge, from the south by land, canoe and sledge. Frequently the mapmakers, working from incomplete evidence, filled in the "terra incognita" on the basis of old legends or hearsay. The serious shortcomings of the early instruments and the dependence on dead-reckoning led to confusion, and the despair of the cartographers can often be seen as they attempted to reduce their data to a form suitable for a map.

Our accurate modern maps are a result of new tools and new general knowledge. The Arctic now knows regular patrols, continental defense lines and permanent police operations. On a part-time basis, teams of trained observers are engaged in recording and forecasting weather conditions and medical stations are working to promote health among the aboriginal people, who have yet to develop normal immunity to infectious disease. Air travel has partly superseded the dog-team, the man-hauled sledge, and the canoe. The sailing ship, which had to thread its way among floating masses of ice, is replaced by sturdy welded ships which can break a passage through the ice fields - surveyed in advance by helicopter. The Northwest Passage has been charted and can be used, although quicker and

easier routes to the Far East have negated the reason for which it was once so eagerly sought. The new Northwest Passage is an aerial route, by the Great Circle, from northern Europe to western America. Canada's segment of the globe, acquired by gift from the British Parliament, now extends to the North Pole. With each passing year it acquires new importance, for Canada and the world, and Canada's responsibility becomes increasingly greater.

Cartography

As a rule, cartography follows exploration. The map-maker must take all that is known and assemble it in a graphic form. The forms he will use will depend on the general world-view of his time, the theories of the philosophers, and the purpose the map is to serve. It was difficult enough when the earth was conceived of as a flat "island" surrounded by the Ocean. It became even more difficult when the problem became one of reducing the surface of a sphere to a plane sheet. Many methods have been used, but all are means to one end - the setting forth visually of the proper relationships between different points on the earth's surface.

Lines marking latitude and longitude are the necessary coordinates of any modern map. The concepts of latitude and longitude both go back to the Greek astronomers and geographers, and they had worked out, at least theoretically, how the measurements could be obtained. They had even estimated roughly the length of a degree of arc on the surface of the spherical earth which they propounded on the basis of their astronomical discoveries. But, while latitude was theoretically easy to reckon, even with the primitive astrolabe, longitude was far more difficult. This depended on an exact measurement of time intervals, and no clocks were sufficiently accurate to do this. It was therefore necessary to reckon longitude on the basis of dead reckoning - of the distance travelled east or west of an accepted point, or meridian - until 1761, when Harrison perfected his chronometer. With this accurate time-piece and tables, the mariner could thenceforth estimate his distance east or west of a prime meridian, and so could fix a position without being subject to the vagaries of winds, tides and currents.

Today new means are at the explorer's and map maker's disposal. Aerial photography, radio direction finders, and radar systems all present accurate information within a short time with less chance of human or other error.

The modern map, with its accuracy and fulness of detail, has resulted from the work of generations of intrepid men in the field and

scholars in the study. The work is never finished. Cartography, unlike history, looks always to the future rather than to the past.

Maps before Columbus

Europe, during the Middle Ages, was dependent for such systematized geographical knowledge as it possessed on the work done by the ancient classical geographers and cartographers - Eratosthenes, Polybius, Strabo and Ptolemy, or upon digests of their work and that of others in later Roman writers, such as Macrobius and Solinus. Ptolemy, working in the second century of our era, had already tabulated and drawn a map of the known world in which latitude and longitude were noted. His map was lost, and only his text was preserved, but this - when finally translated into Latin - served as a basis for new maps in the period immediately before the voyages of Columbus and Cabot, and appeared in many editions thereafter with the new discoveries added. The writings of Solinus, who lived in the third century, and Macrobius' Stoic view of the universe set forth about A. D. 400 in his commentary on Cicero's "Somnium Scipionis", both set forth geographical information, but not of the quality of Ptolemy's works. The present exhibition shows, in the so-called "Borgia" map and in early editions of Ptolemy, Macrobius, and Solinus, the extent of geographical knowledge of the western world at about the beginning of the great age of discovery.

The Golden Age of Discovery

It is now well-known that Columbus was not the first to venture far to the west, but the earlier discoveries of the Norsemen in Greenland and on the coasts of continental America had borne no lasting fruit, and were apparently unknown to him. Iceland was the farthest western point still in contact with Europe, and a brisk trade seems to have been carried on there by the merchants of Bristol. Yet imaginative minds were being kindled by the re-discovery of the classical geographers to hope that a more direct route to the fabulous wealth of the Far East could be found by sailing to the West. The news of Columbus' discovery of the (West) Indies in 1492 stimulated this hope, and urged the English to action. John Cabot, with letters patent from King Henry VII, and supported by the merchants of Bristol, set sail westward for Asia in 1497. The voyage and achievements of Cabot's ship, the "Mathew", with its crew of eighteen, are perhaps the most important single event in Canada's history. With the discovery of Cape Breton Island and Newfoundland in that

year and Nova Scotia and New England in 1498, he established the basis for an equal claim with Columbus (who saw the mainland of South America for the first time in 1498) to the title of discoverer of America.

Although Pope Alexander VI had divided the New World between Spain and Portugal in 1493, this did not prevent the British, the French and the Dutch from attempting to share in the new discoveries. When Spain began to reap a rich harvest of gold from Mexico and Peru that aroused the envy of Europe, the sailors and merchants of all countries began to dream of fame, fortune and adventure. Maps of the period acknowledge their discoveries and claims over Spanish and Portuguese protests. Cartographers, as, for instance, in the Juan de la Cosa manuscript chart of 1500 (now in Madrid), were prepared to place on their charts of the New World "Land discovered by the English".

Yet the new discoveries in America were, to the explorers and businessmen of the age, incidental to the still longed-for passage to China and India. Magellan passed through the Straits named after him in 1520 and sailed across the Pacific to prove that the new discoveries constituted a new continental mass which blocked the way to the Far East. If America could be by-passed to the south, perhaps it could be circumvented to the north also. With this hope, the search for the Northwest Passage proceeded sporadically for centuries.

John Cabot's ventures towards the northwest were followed by those of the Portuguese, Gaspar Corte-Real, who rediscovered Labrador and Greenland and explored their coasts in 1500-01. The fishing-fleets of England, Portugal and France thronged to the new rich banks, but the search for the Northwest Passage gave way for some time to the attempt to open up a Northeast passage. When this was partially accomplished by the opening up of trade with Russia via the White Sea, attention once more turned to the west. It was Frobisher who, in 1576, began that long series of expeditions - mostly British - which during three centuries finally explored the Arctic regions of America. England was not alone in the venture, but the prestige of her sailors and ships - resulting from Drake's circumnavigation of the globe in 1577-80, and the defeat of the Spanish Armada in 1588 - gave her a great lead. Now, too, begin the activities of the great chartered companies - the Muscovy, the Levant, the Hudson's Bay, the East India and others - which provided much of the funds and personnel for exploration through their desire for trade and new trade routes. Their work received royal acknowledgment and support, and they were given priority rights.

Sir Martin Frobisher, in three expeditions from 1576-78, ex-

plored the approaches to Frobisher Bay and penetrated some way into Hudson Strait. From 1585-93 John Davis reached many parts of the eastern Arctic, which still bear the names he gave them - Cumberland Sound, Cape Walsingham and Exeter Sound. Davis Strait commemorates his name, and his "Furious Overfall" was Hudson Strait. Henry Hudson, in 1610, passed through this strait and discovered the great bay which now bears his name. He was, incidentally, the first European to set foot in what is now Ontario, as his party wintered in what is now James Bay. In 1612 Sir Thomas Button entered Hudson Bay and wintered at the mouth of the Nelson River, which he named; in the next year he explored the shores of Southampton Island. To William Baffin we owe the discovery of Baffin Land and Lancaster, Smith and Jones Sounds.

Cartographic Peculiarities and Fictions

From the beginning of exploration in the Atlantic and the northern seas, there was a heritage of misinformation or guesswork from the classical geographers and writers. The "Islands of the Blessed", the "Isle of Seven Cities" and the "Island of Brazyl" were thought to lie far to the west of the Pillars of Hercules (Straits of Gibraltar) and were often placed on maps; as the work of exploration proceeded new errors were made, and new fictitious islands, seas and lands were named and placed on maps. Some of these are noted here, since their presence on the maps might be puzzling.

a) Frisland. Antonio Zeno was supposed to have made a voyage to this island late in the fourteenth century. It was erroneously placed on many maps south of Iceland, and caused confusion for centuries.

b) Buss or Busse. Frobisher, in 1578, identified Greenland with the mythical Frisland placed on the map by Zeno, and Baffin Land with Greenland. When one of his ships (a "buss"), on its way home, sighted new land east of "Frisland", this was thought to be a hitherto unknown island, and was called "Buss". When it could not be found on later voyages it came to be known as the "Sunken Land of Buss". It made its last appearance on a map in 1856.

c) Baccallaos. The name is derived from a Lusitanian word for cod, and refers merely to fishing banks, in some cases to Sable Island.

d) Anian Straits. Marco Polo referred to Anian in North-east Asia. When it was realized that the animal and vegetable life of America

and Asia were different, the early geographers assumed that they were separated, and they called the presumed strait Anian. It was first introduced into maps by Zalteri in 1566.

e) Conibas or Lago Conibas. The meaning of the term is still unknown, but it seems to be an alternative for the Mare Dulce - the "great body of sweet water, the bounds of which are unknown", reported to Cartier by the Indians of Stadacona in 1536. It bore other names as well - Lake Iroquois, Tadenac, Grand Lac, or "massed water extending for thirty voyages by canoe".

f) Estotiland. Perhaps an anomalous term for Scotland.

g) Seven Cities of Cibola, and Quivira. These have properly nothing to do with Arctic exploration. They were legendary cities of great wealth, said to exist in northern Mexico (now New Mexico), and sought by the early Spanish explorers. Coronado, in 1540, reached and captured the Zuni pueblos of New Mexico, which are probably the "Seven Cities", but Quivira remains an enigma.

The Chartered Companies

The great merchant companies, following closely behind the great British explorers of the sixteenth century, became most active supporters of new ventures into uncharted waters, for through them they hoped to open new trade routes and new emporia. The Merchant Adventurers of London, Bristol and the Channel ports traded with Russia, the Levant, East India, Hudson Bay and the many colonies that soon sprang up. Routes and claims were established all over the face of the globe. Napoleon's slighting epithet: "a nation of shop-keepers" missed the mark, for it was in the development of trade that a nation extended its seafaring to world discovery and eventually to colonization. Needless to say, commercial rivalry frequently led to privateering and outright war, but this was incidental to the wealth, power and knowledge which resulted. The Muscovy company licensed, but did not finance, Frobisher. Later it supported Henry Hudson. Even the English East India Company made a brief effort at finding the Northwest Passage but without success.

But it remained for the Hudson's Bay Company (or to give it its full title: The Governor and Company of Adventurers of England trading into Hudson's Bay) to carry through those efforts at exploration and settlement which began the true opening up of the Canadian north. The Royal Charter, dated May 2nd, 1670, was sponsored by

Prince Rupert. The search for the Northwest Passage was not a primary aim; rather, it was to establish posts to serve as centres for the profitable fur trade. The two could not be separated however, and the exploration of the north proceeded, at first, to be sure, slowly. The establishment of a few factories in and around Hudson Bay was followed in 1742 by Captain Middleton's explorations to the west and north into Repulse Bay. But most important were the travels by land. In 1769-72 Samuel Hearne descended the Coppermine River and reached the Arctic - the first to establish a point on the northwest coast after Bering's voyages in 1741. In 1789 Alexander Mackenzie, for the North West Company, descended the river which bears his name to its mouth, establishing another point on the northern ocean - although at the time it could not be linked up with Hearne's discoveries to the east, or with Icy Cape to the west, which Captain Cook had reached by sea in 1777.

The work of the Hudson's Bay Company was not carried out without competition. From the first, the French disputed English penetration into what was considered part of New France. In 1682 Radisson sailed north to Hudson Bay, burned the Company fort and captured the governor. In 1686 a war party from the St. Lawrence, including the famous Iberville, moved north by land and canoe to James Bay, where it captured the Hudson's Bay posts at Forts Moose, Rupert and Albany - leaving only Fort Nelson in English hands. The Treaty of Utrecht in 1713-14, however, restored all the forts and lands of the Hudson's Bay Company to England - not to speak of the surrendering of Newfoundland and Gibraltar. But French competition struck sharply once more with La Verendrye's opening up a new trade route for the furs of the north and west by his exploration and establishment of forts from the Saskatchewan River through Lake Winnipeg and Rainy River to the St. Lawrence - so diverting much of the lucrative trade into French hands.

The Treaty of Paris in 1763, by which Canada became British, removed French competition once and for all, but new competitors arose. The traders of Montreal, joined together as the North West Company in a partnership to exploit the fur trade in the west, pushed west and north in an open struggle with the Hudson's Bay Company. Such keen competition eventually forced the companies into a union; in 1821 an uneasy amalgamation of rival interests in London and Montreal was effected, and carried on under the original Royal Charter. Independent traders, however, further vexed the orderly development of the fur trade, and it became necessary for the Royal Northwest Mounted Police to take over the administration of law and order in the vast hinterland.

In 1869 the Dominion of Canada obtained the transfer of Rupert's Land (all lands watered by streams flowing into Hudson's Bay, and so including what today comprises a large part of the Northwest Territories, northern Ontario and the prairie provinces) to the Government, with certain concessions to the Company of land and trading privileges, for the sum of £300,000. The early development of the North continued, therefore, to be sponsored in part by a private trading company.

In its long history the Hudson's Bay Company has encountered much criticism, but its contributions to Canada cannot be denied. For a long time it provided around its posts the only semblance of law and order in a vast half continent. Its explorers and factors, by following the paths of trade north and west or purely in search of new knowledge, laid claim to a foothold on the Pacific and to the whole territory from Canada's Arctic coast to the Pole which has been inherited by Canada to its great profit.

The Franklin Expedition and its Results

Britain, after the defeat of Napoleon, turned once more with zeal to the discovery of a Northwest Passage. The north-western coast of the Arctic had been reached at only two points: the mouth of the Coppermine River by Hearne in 1769-72; and the mouth of the Mackenzie River by Mackenzie in 1789. But they were "floating" points unconnected with each other, with Icy Cape to the west (reached by Cook in 1777) or with the surveyed coasts of islands, bays and peninsulas in the eastern Arctic.

Franklin, a brilliant surveyor, a wise and generous captain, and an excellent seaman, had already great accomplishments to his credit in Arctic research before the voyage which was to lead to his death. His first commission was to descend the Coppermine River once more, and to survey the Arctic coast eastward from its mouth. This he accomplished by land in 1821. In 1825 he and Richardson descended the Mackenzie and, while Richardson surveyed the coast to the east, so linking the Mackenzie to the Coppermine, Franklin surveyed as far west as $148^{o}52'$.

In 1826 Beechey passed through Bering Strait and reached Point Barrow. Captain George Back discovered the Great Fish River (now called Back's River) in 1833 and explored the coastline eastward from its mouth. Dease and Simpson in 1837-39 linked the Mackenzie to Point Barrow and explored eastward from the Coppermine River to the Boothia Peninsula. It was therefore clearly demonstrated that passage along the Arctic coast from Bering Strait to the Boothia Peninsula was feasible.

In the meantime Captain Parry, in three expeditions from 1819 - 24, had discovered Wellington Channel, Melville Island and Prince Regent Inlet. All that was now necessary for the achievement of the Northwest Passage was to link Parry's discoveries from the east with the west coast of the Boothia Peninsula - that is, to find a navigable channel south and west through the archipelago to the coast.

In 1845 Sir John Franklin was put in charge of a new expedition by sea, to discover this passage. When last seen his ships, the "Erebus" and the "Terror", were entering Lancaster Sound, and all was well. Then they disappeared. It was fourteen years before the mystery was completely solved, but in the meantime about forty search expeditions, financed by the British Government or by funds raised by Lady Franklin, added thousands of miles of surveyed coastline.

We now know that Franklin passed through Lancaster Sound into Barrow Strait, and after examining Wellington Channel - which leads northward - returned and wintered on Beechey Island, north of Somerset Island. In the spring of 1846 he sailed south through Peel Sound (west of Somerset Island) and Franklin Strait (west of Boothia Peninsula), hoping to reach the coast of the mainland. But the charts he had showed no passage east of King William's Island (which was still considered part of the Boothia Peninsula) and he attempted to sail along the west coast of this island. Here he was caught in the ice pressing down from the northwest through McClintock Channel (also uncharted at that time). A year later, on June 11th, 1847, Franklin died. The next spring, after being imprisoned in the ice for a year and a half, the ships were abandoned, and an attempt was made by the survivors to travel over land to Back's River. Their plan was a good one, and if they had been able to accomplish it, they would have completed - at least technically - the Northwest Passage. But the bitter cold, the lack of food, and the exertions required were too much for the little party, and one by one they died, leaving no one to tell the tale of their privations. Only the wreckage of one of their ships, equipment such as spoons found among the Eskimos, and skeletons, told the later searchers of their path.

But one precious document was found in a cairn at Point Victory on King William Island. It is a printed Admiralty form, water-soaked and yellow (see facsimile in exhibition). Around the margin are three handwritten notations: the earliest by Commander Gore, written in June 1847; the last two added by Captain Fitzjames and Captain Crozier on April 25, 1848 (when the survivors from the deserted ships found the cairn and Gore's record on their way south towards Back's River). It tells in the briefest and most poignant way the tale

of the tragedy which had overtaken the expedition when it was within reach of its goal.. For Franklin's expedition had actually found a link between the charted west Arctic coast and the channels through the archipelago, although they were unable to pass through.

The story of Sir John Franklin's expedition is therefore one of triumph and tragedy - but the tragedy led to great achievements in Arctic exploration. The search expeditions of Ross and McClintock (who introduced scientific sledging exploration to the Arctic regions), of Collinson, Austin and Penny (who found Franklin's winter quarters on Beechey Island), of Kennedy and Bellot (who discovered Bellot Strait, which was to become the main connecting link in the Northwest Passage), of Richardson and Rae, of Belcher and McClure (the first to traverse a northwest passage - though not in one ship), of the Americans de Haven, Griffith, Kane, Hayes and Hall - all added to the sum of knowledge. The repeated endeavours to find new evidence of the fate of the Franklin expedition added some 7000 miles of charted coast-line and large areas of explored land in some twenty years.

Other Inducements

Monetary rewards other than profits from the fur trade often awaited the explorers and scholars who achieved results valued by Britain. In 1713 Queen Anne offered a reward of £20,000 for an invention which would record longitude within 30 minutes. John Harrison, in a lifetime of experiment, improved his chronometer over and over again, and finally won the award in stages, after his success in 1761. In 1745 a like sum was offered for the first successful demonstration of the existence of a Northwest Passage. Though renewed in 1775 and 1818, it was not until Parry reached Winter Harbour in 1819 that the award was made. McClure received £10,000 in 1854 for the technical completion of the passage, and John Rae won an equal sum in 1853 for the first news of the fate of the Franklin expedition. Captain James Ross was rewarded for his discovery of the North Magnetic Pole in 1831. The tenacity of purpose shown by so many explorers won public admiration, and these financial rewards found general public support.

The Magnetic and the True North Pole

Both Cabot and Columbus noted and reported the strange behaviour of the magnetic compass during their long voyages west and north. Maps of the New World began to show a magnetic pole - at times two poles. In one of our maps the pole is noted as a mountain-

Agame
Anian regnum
Bergi regio
El stretto de Anian
Vng quæ nostris Gog
Obila flu.
Camaspa
Zabilaga
Chiagma
Cogib flu.
California regio fola fama Hiſpanis nota
PERSIA
Lago de Conibas
Polus magnetis reflectu insularū capitis Viridis
Polus magnetis reflectu Coruu insulæ
Hic mare est dulcium aquarum, cuius terminum ignorāt Canadenſes e.x. veteri Saguena ſemper quærunt
Oceanus ea oras maris has insulas irrumpens, a rio pro fa. ex quibus vndiſſimus, sub septentrionem fertur: ergo ibi in vltera terræ abſcissitate, Regnes quę sub polo sit deabe a cæteris 33 leucarum habet
In septentrionalibus par tibus Regni insulæ sunt inquit M. Paulus Ven. lib. 1. cap. 16. quę tantum vergunt ad aquilonem, vt polus arcticus illis videatur ad meridiem deflectere
Gradus latitudinis
65
70
75
80
85
90
POLVS ARCTICVS
Hic ventus 5 habet oſtia et propter angustiam ac celerem fluxum nun quam congelatur
Hic insula optima est et saluberrima totius septentrionis
Hic ventus 3 mi. grediturq; ostijs, et quot annis ad 8 circiter menses congelatus manet latitudinem habet 37 leucarum
Pygmei hic habitant a suis nanorum proles longe, quam salmedam illi quos in Groenlandia Scre lingers vocant
Marc gla.
Groenland
Nieuland
Islandia
Fretum Davis
E. Cumberlands Isles
Hic als Sandersons Hope prom.
GROE LAND
OCEANUS SEPTEN
TRIONALIS
Circulus Arc
Scotland insulæ
Faire Il id est pulchra insula
Frisland insula

Gerard Mercator (1512–1594)

SEPTENTRIONALIUM TERRARUM DESCRIPTIO.

This coloured illustration of the 1595 "Sweet Water" map shows an open passage above America extending from the Straits of Frobisher and Davis to El Streto de Anian. The recent English discoveries are named and placed —Sanderson, Cumberland, Bedford, Lumley, Warwickes, "A Furious Overfall", Elizabeth prom and the frozen sea appears near two Greenlands.

Cartier's report of "a great mass of Sweet Water the bounds of which are unknown to the Indians of Stadacona" is responsible for showing it twice—flowing towards the four polar islands of the pygmies, and as Lago Conibas flowing towards the Anian region. The north pole is located on a very high black rock. Two magnetic poles are seen near California, approximately in line with the prime meridian.

The map is drawn as a polar projection to 60° North latitude, one of 107 maps in the first book to be described as an "Atlas". Mercator chose the term, and the book was published posthumously by his son Rumbold. It went through many editions in several languages.

A mathematician as well as a cartographer and benefactor of mankind, Mercator introduced the projection by which navigators could set their course by plotting a straight line—a system which is still in use.

ous island of black rock thirty-three leagues in circumference. As voyages continued, magnetic variation and strange compass behaviour of other kinds were confirmed. Halley, in 1701, after two years of work in the Atlantic, produced the first chart with isogonic definite lines, and his dissertation on the variation of the compass. It was not however, until 1831, when James Ross found his needle dipping nearly 90°, that the magnetic pole was located in Boothia Peninsula, and named in honour of William IV. Ross suggested methods for its further investigation, as it was of importance for all who sailed, and many engaged in the study of its fluctuations, cycles and variations. Now, in this International Geophysical Year, the vagaries and movements of the Magnetic Pole are once more under careful scrutiny.

The True North Pole took longer to reach. The first observation above the Arctic Circle - 73° - was recorded by Davis in 1587. Baffin reached 78° in 1616. Spurred on by official approval and the offer of reward by the British Government, Hudson went as far as 80°. The Dane, Nansen, reached 86° in 1895. When the United States became interested in the Arctic regions, Hayes reached 82° and Greely 83°30'. In 1909, after a quarter of a century of repeated attempts, Peary finally reached North Latitude 90° - the culmination of four centuries of international effort by British, Norwegians, Danes, Russians, Italians and Americans. It is only fitting that the current Geophysical Year, with all its research and discoveries, should be an international venture.

The first successful flight over the North Pole was made in 1926 by Amundsen, Ellsworth and Nobile in the airship "Norge". Now routine observations are made in regular flights over the Pole, and the Canadian flag, deposited recently by our Governor-General, reposes beside the Stars and Stripes set up by Peary.

Means of Transportation

Making possible the gradual achievement of the Northwest Passage, the pin-pointing of the wandering Magnetic Pole, and the reaching of the true Pole has been the gradual improvement of means of transportation. The tiny sailing vessels of the early explorers pushed to astounding limits, but they were incapable of carrying the supplies needed, or of combatting the crushing ice of the northern latitudes. The steam-ship, the all-welded hull, new designs to crush and withstand the ice - all have made sea passage a more practicable means of journeying in the Arctic. Long treks overland or over the ice have utilized the Eskimo sledge with its iced runners and dog-teams, the Eskimo kayak or Indian canoe, and the Indian's or voya-

geur's tump-line. The ski and the snowshoe, ponies and reindeer, have all been pressed into service at one time or another. Today, with the much larger funds provided by interested governments, special motorized snowmobile trains with caterpillar treads, or scoots driven by air propellers, are much used, but they have not outmoded the dog sled, the oldest and the best means for Arctic travel by land. The aeroplane and the helicopter, comparatively newcomers in the field of exploration, provide transportation via a third medium, the air, which was unavailable and unimagined by the early explorers. With improvements made in all three modes of transportation, and with continued experiment in Arctic clothing, housing, medicine, nutrition and many other aspects of the peculiar problems posed by life in the far north, the Arctic - while still rugged - is not the menace to human occupation it once was.

The Eskimo

The Innuit, or Eskimo, has interested the rest of the world since Frobisher made the first written report on these fur-clad natives of the Arctic. Known to the Scandinavians as the Skraelinger, their mode of life and customs have been studied at length by anthropologists, ethnologists and archaeologists. They have accepted the invasion of the white man with dignity and intelligence. From the Eskimo the explorers and traders have learned the use of the sledge and dogs, the kayak, the igloo, snow-glasses, and many of the ways of life which alone can make existence in the north possible. Parry and Hall gratefully accepted their intelligent assistance, and benefitted from their instinctive ability to produce good charts of regions which were familiar to them. Four Eskimo accompanied Peary and Henson in their final dash to the North Pole in 1909. Today they number - over the 5000 mile expanse of the Arctic from Greenland to Siberia - only about 10,000. As a people they are cheerful, resourceful and inventive; their characteristic art portrays humour, action, keen observation and artistic restraint.

The Canadian Government has fortunately recognized its responsibility for the Eskimo, and through schools, medical services and assistance of other kinds is striving to protect them from the worst effects of a new culture which threatens their old way of life and even their very existence.

Colonization

Today the Canadian North is developing rapidly, and we may yet

see thriving communities along the Arctic Circle. Edmonton is our most northern city, yet it is of interest to note that in Russia about one hundred million people live north of its latitude. The potentialities of this great Northland are only now gradually being evaluated, thanks to the studies being carried on by the Canadian Government Services, the Defense Research Board, the Canadian Geological Survey and private ventures. The lure of new wealth, whether it be rare metals, uranium, or oil and natural gas, is drawing an ever-growing population into the region. It may well be that the Canadian Arctic will some day see a population of several millions, and what are now "Territories" administered from Ottawa may become "Provinces", with their own legislatures.

Conclusion

This brief review of discovery and mapping in the Canadian North outlines some of the problems found by the men who opened up a great new area, and the ingenuity and perseverance which finally brought the solutions to them.

The first impetus to exploration was the desire to obtain furs, and for an easier passage to the wealth of the Far East. The difficulties encountered in the establishment of trading posts and in the discovery of the Northwest Passage long remained a challenge. After centuries of attempts and partial successes, Roald Amundsen, the Norwegian explorer, was the first actually to navigate the Northwest Passage, in his ship the "Gjöa", in 1903-06. Forty years later the R. C. M. P. Ship "St. Roch", under the command of Inspector Henry Larsen, was the first to navigate the passage both ways. In 1940-42 she sailed from Vancouver to Halifax via the southern route - keeping to the coast of Canada and passing through Bellot Strait. In 1944 she returned by the northern route, through the archipelago via Barrow Strait and Melville Sound. Today convoys of ships leave large cargoes of supplies and technical equipment at bases along our Arctic shores for the network of warning and weather stations.

Prospectors are leading industry northwards, where climatic conditions raise new problems which must be solved. Scientists and technicians of many nations are now working together to study the geographic, physical and biological phenomena of the polar regions. Weather stations, served by air transport, report frequently on magnetic and meteorological disturbances. Airborne photographic and geophysical surveys are proceding, but will continue to require local and regional ground surveys to investigate the extent of the natural resources, and suitable areas for habitation.

The white man will in time - and in his own way - solve the challenge of the North as the Eskimo solved it long ago in his. These maps document the history of man's slow exploration and conquest of the Arctic, and enable us better to appreciate today's dramatic developments.

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CHRONOLOGICAL LIST OF MAPS

Mediaeval Maps

1453 Anonymous. Map of the world. The woodcut here shown, made in 1792, is a copy of the so-called Borgia map, now in the Vatican. The mediaeval mixture of geographical knowledge and legend is apparent, and South is shown at the top. The Mediterranean Sea is in the "middle of the known world" surrounded by sketches illustrating the phantasy and information available at the time. A river of ocean surrounds the world.

1513 Macrobius, Venundatur ab Jodoco Badio & Ioanne Paruo. A book bound in the original leather and opened at a planisphere map. This was a standard text-book from the thirteenth century on, although it depends finally on the work of Macrobius, who flourished about A. D. 400.

Maps from after the Discovery of America

1511 Ptolemy. Venice edition by Bernhard Sylvanus. "Terra Laboratorus" and "Regalis Domus" are placed properly after the Portuguese voyages of 1500-03, and not joined to Asia, as many charts continued to show them. This is the earliest appearance of Labrador on a map, and so it is of particular interest to Canadians. This is also the first world map on a cordiform or heart-shaped projection, and the first to be printed in two colours.

1513 Ptolemy. TABULA TERRE NOVE. Strassburg edition by Martin Waldseemuller. This "Admiral's map" of the New World was derived from a sketch by Columbus. Waldseemuller does not, in this map, repeat his use of the word "America", which appeared for the first time on his 1507 map.

1528 Bordone. This oval world map appeared without title in the Isolario. In the New World only Labratore appears as a place name. Letters and numbers are placed for use with an index.

1541 Ptolemy. Vienne, Dauphine edition by Treschell. This resembles the "Admiral's map", but a realistic cannibal scene has been added.

1543 Solinus. Basil edition by Mich. Isingrinium (bound in book). The New World is shown as Terra Incognita, separated from Asia by sea, one of the earliest (theoretical) separations.

1556 Ramusio. WOODCUT OF NEW FRANCE by Gastaldi. Newfoundland (Terra Nyova) is divided into many islands, one named "Demons" Labrador, Ras, Nurumbega, Breton and Sable (a-rena, i.e. sand) Island, with numerous shoals.

1561 Ptolemy. Valgresi edition. ORBIS DESCRIPTIO. A copper engraving places Terra de Lavorad east of the Mare Hyperboreal.

1562 Ptolemy. Pirckheimer edition. TIERRA NUEVA. Labrador and Isola de Demoni are placed east of Tierra del Bacalaos. The coast line shows Terra Nova (Newfoundland) divided into many islands above Cape de Ras. Larcadia is well down the coast below Nurumberg and Le Paradis.

1562 Camocio. Venice. America is joined to Asia on this world map. The place name "Canada" appears, printed probably for the first time on any map. Stadacone, Saguenai, Capes Berton and Ras are noted.

1565 Bertelli. UNIVERSALE DESCRITTIONE . . . An oval world map showing America joined to Asia. This rare specimen of the work of the famous Lafreri Italian School is dedicated to Zacco. The name "Canada" appears below Labrador.

156? Unsigned and undated. An early proof copy of the 1566 Zalteri map described below.

1566 Zalteri. IL DISEGNO DEL DISCOPERTO DELLA NOVA FRANZA . . . The Arctic coast of North America is shown from Labrador to a strait separating it from Asia, called "Anian". This is the earliest appearance of this named separation. "Canada" is placed near a great lake - based on Cartier's reports.

1570 Ortelius. TARTARY. East of Asia the Stretto di Anian appears above Japan. The coast of America is shown with the Vermillion Sea of California. Five of the "Seven Cities of Cibola" are shown.

1574 Hogenberg. TYPUS ORBIS TERRARUM. The Northwest Passage is open below the four legendary polar islands. Canada is shown as a town in New France. The Saguenay River and the Gulf of St. Lawrence are included, as well as the mythical Frisland and the Isle of Demons.

1587 Ortelius. TYPUS ORBIS TERRARUM. This oval map of the world indicates no knowledge of the discoveries of Frobisher and Davis, but does show open Northeast and Northwest Passages.

1589 Langren. TYPUS ORBIS TERRARUM. This world map shows, below the four polar islands, an open water way into which Lake Conibaz flows. Cape Razo, Cape Bedord and Walsimcan are placed on the passage astride the Arctic Circle.

1590 Myritius. UNIVERSALIS ORBIS DESCRIPTIO. This oval projection of the world shows a fusion of Asia and Greenland that includes North America. Laboris (Labrador), Mexico and Florida are the only place names appearing in North America that are now in use.

1593 de Jode. NOVA TOTIUS EUROPAE TABULA. The north Atlantic routes are shown. Yilant (Iceland) and the mythical Frisland appear. Two inhabited places, Alba and St. Thome Monastery, indicate early colonization of Greenland. West of this live the pygmies called Skraelinger. The magnetic pole is placed (top left) on a domed mountain of black rock, 33 leagues in circumference.

1595 Mercator (Gerhard Kremer). SEPTENTRIONALIUM TERRARUM DESCRIPTIO. Shown in the first exhibition and illustrated in Catalogue colour plate. A polar projection from the Atlas published after Mercator's death.

1596 de Bry. AMERICA SIVE NOVUS ORBIS . . . Shows an open Northwest Passage from the mythical island of Bus to Elstreto Anian. Columbus, Magellan and Pisaro are portrayed in the border decoration, with ships of the period.

1597 Wytfliet. UTRIUSQUE HEMISPHERII DELINEATIO. An open passage is shown from the Fretto de Anian above the Bergi Regio. In the east, two Greenlands are separated from Estoti-

land, a part of Nova Francia. A large body of Sweet Water is shown flowing into the Northwest passage below the Polar islands.

1597 Wytfliet. CONIBAS REGIO CUM VICINIS GENTIBUS. This map is from the first Atlas solely devoted to the New World, and indicates the great body of Sweet Water reported by Cartier in 1536. Hochelaga is shown in the Saguenai region.

1597 Wytfliet. LIMES OCCIDENTIS QUIVIRA ET ANIAN. The Arctic Circle is drawn above 66° North Latitude, crossing an open Anian Strait. The Seven Cities of Quivira are located.

1598 Barents. Edited by Doetechum. The discoveries of Frobisher and Davis are indicated. A Spanish influence is shown in the naming of the Stretto di Anian, where the Magnetic Pole is placed.

1606 Mercator-Hondius. AMERICA. The southern part ofGreenland is separate, and called Lesser Point. Davis Strait is shown, and a "furious overfall" below Lomley's Inlet. Places discovered by Frobisher and Davis are placed but misspelled.

1607 Mercator-Hondius. AMERICA SIVE INDIA NOVA. The open Northwest Passage extends from Cape Razo below the polar islands. The Mare Dulcuum Aquarum, or Lake of Sweet Water, is shown. The Magnetic Pole is placed in El Streto d'Anian. Baccalaos ("codfish"), Brest, Breton, Terra Corterealis, Cape Belle and the Sinus St. Laurenty appear.

1608 Maginus. UNIVERSI ORBIS DESCRIPTIO. An oval projection of the world which is decorated with six wind heads; it adds little to information already available.

1612 Gerritsz. DESCRIPTIO AC DELINEATIO DETECTIONIS FRETI. After Hudson's sketch. This bound-in map was made in Amsterdam and republished in 1613. Hudson's mutinous crew used his sketch to set their return course to England. It records the first certain visit of any European to Ontario. Champlain probably saw this map before his exploration of the Ottawa River in 1613.

1632 Champlain. CARTE DE LA NOUVELLE FRANCE, AUGMENTEE. . . This, Champlain's fourth map, follows Hudson's

description for the northern regions.

1635 Blaeu. REGUINES SUB POLO ARCTICO. This polar projection extends southward below the Arctic Circle and James Bay. "Forbishers Straet" is on the east coast of Greenland. In Baffin Bay are Lancaster and Jones Sounds, Sir Thomas Smits Bay, Hackluyts Isle, Wale and Westerholme Sounds and Dudley Digs Kape. Many place names are marked on Hudson Bay, including Port Nelson and "Hudsons wintering place".

1636 Boisseau. NOUVELLE ET EXACTE DESCRIPTION DE LA TERRE UNIVERSELLE. On this world map a perpetual calendar and compass rose appear.

1641 Hondius. NOVA TOTIUS TERRARUM ORBIS. . . .TABULA. Buttons Bay appears for Hudson Bay, which is in turn placed in James Bay. Ne ultra, Hope Advanced, Walsingam and Frisland are located. Cape Charles is on a mass of land in Davis Strait.

1647 Dudley. CARTA PARTICOLARE DELLO ISTRETO DE MARE ISCOPERTO DA HEN. HUDSON INGILESE NEL 1611. From the first atlas to use the Mercator projection for all its maps. Lucini required seven years to produce the copper plates for this work, a fine example of engraving.

1650 Janson. MAR DEL NORT. Greenland is shown in the North Atlantic between Yslandi and Meta Incognita. Frobisher Strait, Desolation, Gilbert Sound and Queen Elizabeth Foreland are marked. Hudson Strait is partly shown, leading from Davis Strait.

1664 du Val. LE CANADA. This map follows that of Champlain, and he is credited. Editions of it appeared with minor changes over many years. The Northern Regions show Button's Bay and Munck Port on a second west coast of Hudson Bay, separated widely from its original. Two Greenlands appear, one called Viel Groeneland and the other Groenland. The Strait of Forbisher is shown separating Elizabeth Foreland, which appears as an island.

1670 Doncker. PASCAART VANDE NOORDER ZEE CUSTEN. The Hudson Bay region is shown with notes of the wintering of Hud-

son, Buttons and James. Baffins Bay, with openings to the west, is separated by a large James Isle from Greenland. Frobisher's Strait divides the south of Greenland to form two islands.

1680 Thornton, Seller et al. A CHART OF YE NORTH PART OF AMERICA . . . The Royal coat-of-arms appears on Labrador. Greenland is split into four islands.

1680 de Wit. POLI ARCTICI . . . Interesting whaling sketches decorate this polar projection, as in the earlier Hondius map.

1688 Coronelli-Nolin. LE GLOBE TERRESTRE . . . This map, made for Pontchartrin, shows the mythical Terre Del Jesso, or Terre de la Compagnie, separated by the Strait of Vriez from Asia.

1689 Coronelli-Nolin (augmented by Tillemon). PARTI ORIENTALE DU CANADA . . . TIERRA DE LABBORADOR. On this map of the north Atlantic coast the entrance to Labrador is shown as La Bras d'Or.

1696 Jaillot. NOVA CANADAE . . . TABULA. Dedicated to the Duke of Burgundy. French trading posts are shown on Hudson Bay, following the French attacks that restricted English trading activity for years.

1696 Jaillot-Sanson. AMERIQUE SEPTENTRIONALE. The arctic regions of eastern Canada show Baffin Bay. New Denmark is placed in a blank area above Lac des Assinipoualacs. Fort de Bourbon is located on Hudson Bay after French naval successes there.

1700 Mortier. CARTE . . . DE L'AMERIQUE SEPTENTRIONALE. The Baffin Bay region shows Jones and Lancaster Sound, but it is interesting to note that Destroit d'Anian appears near the Mer Glaciale, which is located at the bottom of Buttons Bay near Port Nelson.

1700 Mortier. LE CANADA . . . LABRADOR . . . TERRE NEUVE. The fur trade routes between the Great Lakes and Hudson Bay are shown. Tassalon (Thessalon) appears on Georgian Bay. Tabitibs (Abitibi) Lake is also shown.

1700 Cassini- Covens & Mortier. PLANISPHERIUM TERRESTRE. A north polar projection shows the world according to this famour astronomer with the Pacific Ocean in its proper proportion. Asterisks and coloured dots indicate the world wide stations where observations were made to produce the first scientific map. In North America, only Quebec and Tadoussac reported to Paris.

1705 Van der Aa. L'AMERIQUE. This map of the New World adds nothing new, but is very ornamental.

1721 Chatelain. LES ET TRES UTILES . . . Shows the North Atlantic tracks, a cod-curing scene and portraits of Drake, Magellan and Schouten.

1731 Danet. L'AMERIQUE MERIDIONALE ET SEPTENTRIONALE. Shows the approach to Hudson Bay before Middleton's survey. An opening is left on the west coast. The map is decorated with sketches of Columbus, Amerigo Vespucci, Alvarez, Ponce de Leon, Cortes, Magellan, Cano, Verrazzano, Cartier, Pisarro, Marquette, Joliet, de la Salle, and other explorers.

1743 Middleton . . . CHART OF HUDSON'S BAY . . . Middleton dedicated his fine survey to the King, but soon he and the Hudson's Bay Company were involved in a bitter dispute with those who believed that he had been bribed to show that the Northwest Passage did not exist. He discovered Wager and Repulse Bays.

1748 Ellis. THE CHART OF THE COAST WHERE A NORTH WEST PASSAGE WAS ATTEMPTED . . . Dedicated to Arthur Dobbs et al. Moore and Smith sailed in the "Dobbs" and "California" after a heated controversy with Middleton and the Hudson's Bay Company. In 1749, after wintering at York Factory, they explored Corbett's and Chesterfield's Inlets. Wager Strait was found to be a bay, and a chastened expedition returned to England.

1751 Rouille. CARTE REDUITE DES MERS DU NORD. This French map, from the Department of the Marine for use by the King's ships, shows the North Atlantic coast and America from the Golphe de St. Laurent to Baye de Baffins.

1753 Bellin. CARTE REDUITE ENTRE L'ASIE ET L'AMERIQUE. This interesting sketch shows the land discovered by the Russians in 1723, 1728 and 1741. Below appear the entrances of de Fuca (1592) and Aguilar (1603).

1755 Bellin. CARTE DE L'AMERIQUE SEPTENTRIONALE. Shows North America with an early description of the open "Sea of the West". The various supposed openings and the sketch of Russian discoveries in 1741 appear with some interesting La Verendrye details.

1755 Bellin. PARTI ORIENTALE DE LA NOUVELLE FRANCE OU DU CANADA. The waterways between the Saguenay and James Bay appear in detail because of French interest in routes for the fur trade.

1762 Vaugondy. CANADA, LOUISIANE, POSSESSIONS ANGL? . . . The upper left inset shows the fantastic waterways in Northwest America derived from de Fonte.

1763 d'Anville and Roberts. A new map of North America according to the definite treaty concluded at Paris, 10th February 1763, by which Canada was ceded to Britain.

1765 Bellin. CARTE DES VARIATIONS DE LA BOUSSOLE . . . Dedicated to Choiseul; a chart of the world, giving magnetic variations and wind directions.

1771 Bonne. PARTI DE L'AMERIQUE SEPTENTRIONALE. The northeastern regions are shown, and it is noted on Baffin's Bay that the English have searched in this region for a passage.

1772 Jeffreys-Vaugondy. This French edition shows Japanese discoveries north of Alaska.

1780 Lotter. CARTE DE L'OCEAN PACIFIQUE. . . French interest in Cook's discovery of the Bering Strait is shown by this specimen, which was copied from the "Gentleman's Magazine".

1783 Dezauche. CARTE DU CANADA. No new discoveries shown in the northern regions of Canada.

1794 Roberts. A GENERAL CHART EXHIBITING DISCOVERIES MADE BY CAPT. JAMES COOK . . . WITH THE TRACKS

1768-1780. Above Bering Strait Cook found that his ship "The Resolution" was prevented by ice from going beyond Cape North in Asia. On August 18th, 1778, Icy Cape was reached above Alaska. Hearne's discovery was shown at 72° North for the mouth of the Coppermine River. It was Cook's River at 60° North that Mackenzie hoped to reach in 1789.

1794 Faden. Beyond Hudson Bay only Icy Cape, discovered by Cook, and the mouth of the Coppermine River, are shown. Mackenzie's Whale Island (July 12, 1789) appears, with detail of the river named for this great explorer.

1796 Bowles and Carver. A NEW POCKET MAP OF THE NORTH-WEST COAST OF AMERICA. Published by the Royal Academy of Sciences of Petersburg. A mass of land extends from Alaska towards Asia. Bering's Isle, where he was wrecked and died in 1741, is placed near Kamtschatka. Tracks of other Russian explorers are shown.

1801 Mackenzie. The great river discovered by him and named in his honour is shown from his sketches of 1789. This brilliant exploration reached the northern coast. Only Bering, Hearne and Capt. Cook had reached the Arctic Ocean before this.

1804 Arrowsmith. AMERICA. In Baffin Bay, Jones Sound is left open towards the west. Other openings are shown near Cape Fox and in the northern part of Repulse Bay. The sea discovered by Hearne and Mackenzie, and Cook's Icy Cape, are shown on the Northwest Passage.

1814 Arrowsmith - Pinkerton. NORTH AMERICA. This map shows what was known of the Northwest Passage before Parry's explorations.

1850 ca. Japanese. This late map still shows an open Northwest Passage and a large island in Bering Straits, where, according to French reports, Japanese explorers had made discoveries.

1852 Arrowsmith. No title. Shows areas explored by various expeditions - Ross, Richardson, Austin, Ommanney, Phillipps, Penny, Rae, Kennedy, Belcher, Kellett, Inglefield, McClure - all of whom participated in the search for Sir John Franklin and survivors of his expedition.

185? Wyld. CHART OF THE ARCTIC REGION. A third edition, dedicated to Lady Franklin, showing the progress of discovery during the search for Franklin.

1853 Anon. ARCTIC REGIONS WITH ALL THE DISCOVERIES. On the inset is shown, as far as Point Turnagain, Franklin's journey from the Coppermine Tiver to the head of Bathurst Inlet and his return by Hoods River. Russian America extends to Clarence River. All the northern coast is shown as explored except at Lower Boothia. The Magnetic Pole is placed.

1855 Colton. NORTHERN AMERICA, BRITISH, RUSSIAN AND DANISH. This New York map shows Victoria Land joined to Boothia.

1857 Devine. A MAP OF THE NORTH WEST PART OF CANADA. Printed by Maclear of Toronto for the Hon. Joseph Caushon. Probably the first map to appear with the northern boundary shown completely drawn. The 1825 Alaskan boundary is marked. Great interest in the search for Franklin is shown by the tracks and discoveries of Simpson, Rae, Kennedy, McClure and Collinson.

1908 Amundsen. THE TRACK OF THE GJÖA. From the German Edition. This shows the route of the first voyage through the Northwest Passage completed in one ship, 1903-06.

1944 Tracks of the R.C.M.P.S. "St. Roch", Vancouver - Halifax and return via the Arctic Ocean.